

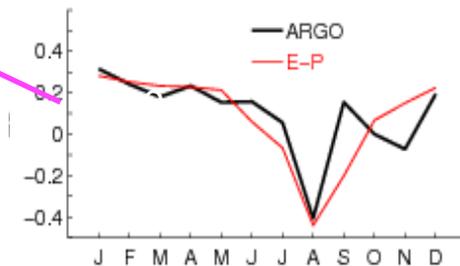
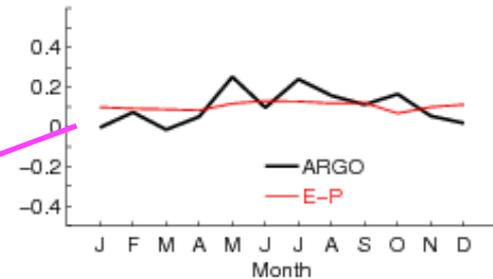
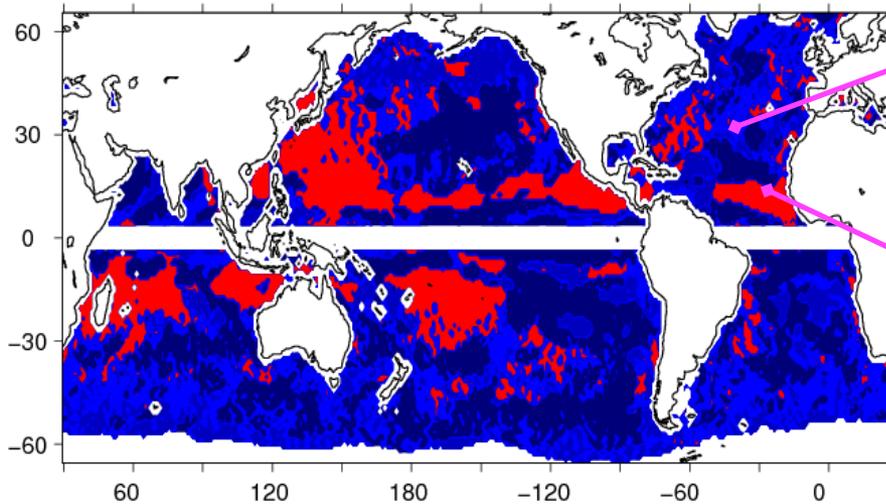
Water Cycle and Ocean Salinity: Where can the oceans be a rain gauge?

Lisan Yu

Woods Hole Oceanographic Institution

$$\frac{\partial S'}{\partial t} \approx \frac{S_0(E' - P')}{\bar{h}} - \bar{\mathbf{U}} \cdot \nabla S' - \mathbf{U}' \cdot \nabla \bar{S} - \frac{(\Gamma(w_e)(S - S_b))'}{\bar{h}} + \kappa \nabla^2 S'$$

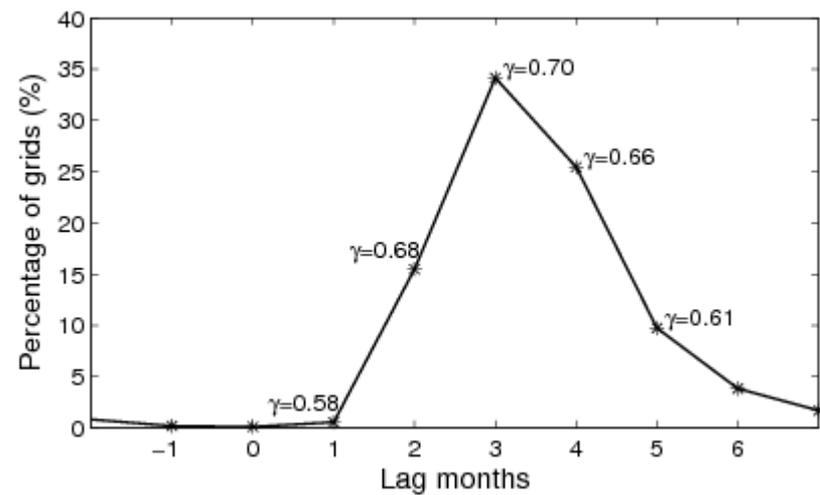
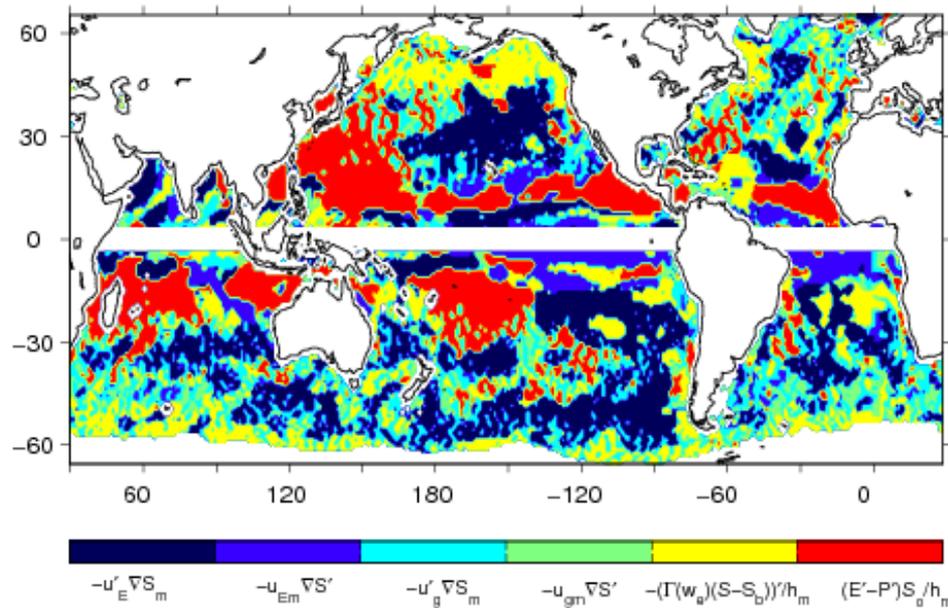
A “Rain-gauge regime” based on WOA



Red areas: the salinity change is governed by $(E-P)/h$

Blue areas: the salinity change is governed by ocean dynamics.

First Dominance Term



Second Dominance Term

